Drinking Water Quality Report

January 2016 – December 2016 **Dated: May 2017**

2016 Drinking Water Quality Report

The City of Stockton has prepared its annual Drinking Water Quality Report to inform our customers and the community about the quality of drinking water delivered each and every day to City of Stockton water service customers. We are dedicated to providing the highest quality water available, while meeting all State and Federal drinking water standards. This Report includes a detailed water quality summary, including monitoring and testing results, as well as information regarding the steps we take to protect health and safety.

While providing this information is required by law, additional information is included that is both useful and informative.

The Science of Water

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency (USEPA) Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

About Your Water

To meet the needs of our customers, the City of Stockton uses a combination of the following sources:

Water diverted from the **Sacramento San Joaquin Delta** and treated at the City's Delta Water Treatment Plant (DWTP)

Water from the **Mokelumne River** purchased from Woodbridge Irrigation District and treated at the City's Delta Water Treatment Plant

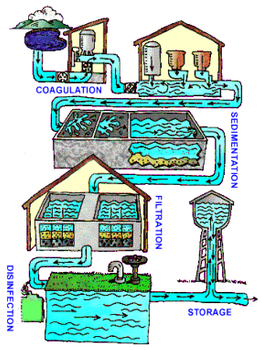
Local **groundwater** from wells owned and operated by the City Treated water purchased from the Stockton East Water District (SEWD) which is imported from the **New Melones (Stanislaus River)** and **New Hogan (Calaveras River) Reservoirs**

Did You Know?

In 2016, the City of Stockton delivered **9 billion gallons** of water to over **47,000 service connections** serving an estimated **population** of over **177.000**.

Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.

Drinking Water Safety and Your Health



In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. Additional information on bottled water is available on the California Department of Public Health website http://www.cdph.ca.gov/programs/Pages/fdbBVW.aspx

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are also available from the Safe Drinking Water Hotline (1-800-426-4791).

Lead in Water: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing. The water delivered by the City of Stockton to your meter meets or exceeds all water quality standards, but your home plumbing can affect water quality. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking and cooking. If you are concerned about lead in your water, you may wish to have your water tested.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at www.epa.gov/lead.

Drinking Water Source Assessment & Protection Program (DWSAPP)

Drinking Water Source Assessments for the Water System were completed in 2001 and 2012. The sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: *urban stormwater; septic tanks and sewage spills; dredging; mining; construction; metal plating; electronics manufacturing; National Pollution Discharge Elimination System (NPDES) permitting discharges; dairy waste and agricultural operations.* The sources are considered most vulnerable to the following activities not associated with any detected contaminants: *illegal activities/dumping; recreation; lagoons; leaking underground storage tanks; vehicle fueling and maintenance and chemical/petroleum/plastics processing and storage.*

You may request assessment summaries by contacting Tahir Mansoor , State Water Resources Control Board, at (209) 948-7696.

How to Read the Water Quality Table

The City of Stockton tests your water for several regulated and unregulated contaminants. This table lists only those contaminants that were detected. In the table, water quality test results are divided into three main sections: **"Primary Drinking Water Standards," "Secondary Drinking Water Standards,"** and **"Unregulated Compounds."** Primary standards protect public health by limiting levels of certain constituents in drinking water. Secondary standards are set for substances that could affect the water's taste, odor or appearance. Unregulated substances are listed for your information. Data in the table represents sampling from 2014 through 2016, unless otherwise noted.

Drinking Water Quality Table

Primary Drinking Water Standards				Groundwater		Surface Water			
Constituent	Units	Primary MCL	PHG (MCLG)	Range	Average	DWTP Average	SEWD Average	Meets Regulation?	Source of Constituent
Aluminum	mg/L	1	0.6	< 0.05 – 0.17	< 0.05	< 0.05	< 0.05	Yes	Erosion of natural deposits
Arsenic (1)	µg/L	10	0.004	< 2.0 – 6.9	4.0	< 2.0	< 2.0	Yes	Erosion of natural deposits; runoff from orchards, and electronics production wastes
Barium	mg/L	1	2	< 0.10 – 0.24	0.17	< 0.10	< 0.10	Yes	Erosion of natural deposits
Fluoride	mg/L	2.0	1	< 0.10 – 0.20	< 0.10	< 0.10	< 0.10	Yes	Erosion of natural deposits
Hexavalent Chromium	µg/L	10	0.02	< 1.0 – 5.8	3.8	< 1.0	NR	Yes	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Lead	µg/L	AL = 15	0.2	< 5.0 – 7.4	< 5.0	< 5.0	< 5.0	Yes	Discharges from industrial manufacturers; erosion of natural deposits
Nitrate (as N) (2)	mg/L	10	10	0.6 – 5.2	3.3	< 0.4	< 0.4	Yes	Runoff/leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Alpha Activity, Gross (3)	pCi/L	15 (4)	(0)	< 3.0 – 6.62	3.76	NR	NR	Yes	Erosion of natural deposits
Uranium (3)	pCi/L	20 (4)	0.43	< 1.0 – 6.21	4.23	NR	NR	Yes	Erosion of natural deposits

FOOTNOTES

(1) While your drinking water meets federal and state standards for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

(2) Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

(3) The compliance cycle for monitoring this constituent can vary from three to nine years; some data may be from before 2014.

(4) Compliance may be based on average values for four quarters.

Drinking Water Quality Table

Primary Drinking Water Standards	Units	MCL	PHG (MCLG)	Surface Water DWTP Highest Level	Surface Water DWTP Lowest Monthly % (1)	Surface Water SEWD Highest Level	Surface Water SEWD Lowest Monthly % (2)	Meets Regulation ?	Source of Constituent
Turbidity	NTU	TT	N/A	0.08	100	0.12	100	Yes	Soil runoff

	Units	MCL (MRDL)	MCLG (MRDLG)	Distribution System Range	Distribution System Average	Meets Regulation ?	Source of Constituent
Total Coliform Bacteria	% positive samples	5% (3)	0	0 – 1.3	0.3	Yes	Naturally present in the environment
Total Chlorine as Cl_2	mg/L	(4.0)	(4.0)	0.04 – 3.4	1.78	Yes	Drinking water disinfectant added for treatment
Free Chlorine as Cl_2	mg/L	(4.0)	(4.0)	0.04 – 0.88	0.54	Yes	Drinking water disinfectant added for treatment
Total Trihalomethanes (TTHM)	µg/L	80	N/A	1.6 – 88.0 (4)	82.3	No	By-product of drinking water disinfection
Haloacetic Acids 5 (HAA5)	µg/L	60	N/A	2.6 – 38.0 (4)	29.3	Yes	By-product of drinking water disinfection

	Units	Action Level (AL)	PHG	Level Detected at the 90th percentile	Samples exceeding the AL	Meets Regulation ?	Source of Constituent
Copper (5)	mg/L	1.3	0.3	0.089	0 of 50	Yes	Internal corrosion of household plumbing systems
Lead (5)	µg/L	15	0.2	< 5	0 of 50	Yes	Internal corrosion of household plumbing systems

FOOTNOTES

(1) For surface water systems, the Treatment Technique requires that each month the turbidity level of the filtered water for membrane filtration facilities is less than or equal to 0.1 NTU in 95% of the measurements and shall not exceed 1.0 NTU at any time. Turbidity is a measure of the cloudiness of the water. It is monitored as a good indicator of the effectiveness of the filtration system.

(2) For surface water systems, the Treatment Technique requires that each month the turbidity level of the filtered water is less than or equal to 0.3 NTU in 95% of the measurements and shall not exceed 1.0 NTU at any time. Turbidity is a measure of the cloudiness of the water. It is monitored as a good indicator of the effectiveness of the filtration system.

(3) Presence of coliform bacteria in no more than 5% of monthly samples.

(4) Compliance is based on the quarterly Locational Running Annual Average (LRAA). The highest level reported in the range is the result of an individual sample. TTHM LRAA exceedance was as follows: Westchester Circle, 82.3 µg/L on 1/28/16. The individual sample result was 74.0 µg/L on this date. Since the exceedance, the water system has been in compliance with the disinfection by-product regulation. The latest TTHM LRAA monitoring for this locations is: Westchester Circle, 34.6 µg/L.

(5) Lead and Copper are required to be monitored every three years. This data is from 2016.

Secondary Drinking Water Standards			Groundwater		Surface Water				
					DWTP		SEWD		
Constituent	Units	MCL	Range	Average	Range	Average	Range	Average	Source of Constituent
Aluminum	µg/L	200	< 50 – 170	< 50		< 50		< 50	Erosion of natural deposits
Chloride	mg/L	500	6.2 – 83	31		7		4	Runoff/leaching from natural deposits; seawater influence
Color	units	15	< 3 – 5	< 3	< 3 – 5	< 3		< 3	Naturally-occurring organic materials
Iron	µg/L	300	< 100 – 530	< 100		< 100		< 100	Leaching from natural deposits; industrial wastes
Manganese	µg/L	50	< 20 – 190	< 20	< 20 – 20	< 20		< 20	Leaching from natural deposits
Odor	units	3	< 1 – 2	< 1	< 1 – 4.7	1.7		4	Naturally-occurring organic materials
Specific Conductance	µS/cm	1,600	313 – 816	523	66 – 438	182	69 – 240	115	Substances that form ions when in water; seawater influence
Sulfate	mg/L	500	15 – 50	29		2		15	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	mg/L	1,000	240 – 560	357	50 – 250	111	47 – 144	43	Runoff/leaching from natural deposits
Turbidity	NTU	5	< 0.5 – 1.8	< 0.5		< 0.5		< 0.5	Runoff/leaching from natural deposits; industrial wastes

Unregulated Compounds		Groundwater		Surface Water	
				DWTP	SEWD
Constituent	Units	Range	Average	Average	Average
Total Hardness (as $CaCO_3$) (1)	mg/L	130 – 340	216	17	30
Boron	µg/L	< 100 – 200	< 100	< 100	< 100
Sodium	mg/L	13 – 38	22	6	9
Vanadium	µg/L	16 – 29	23	< 3.0	< 3.0

Other Compounds		Groundwater		Surface Water	
				DWTP	SEWD
Constituent	Units	Range	Average	Average	Average
Total Alkalinity	mg/L	140 – 200	159	20	30
Calcium	mg/L	26 – 76	49	5	7
Magnesium	mg/L	11 – 36	23	1	3
Potassium	mg/L	4.0 – 6.3	5.0	< 1	1

(1) conversion: Hardness (grains per gallon) = Hardness as $CaCO_3$ (mg/L) multiplied by 0.0584

Unregulated Contaminant Monitoring Rule (UCMR3) Contaminants Monitored in 2015 (1),(2)		Groundwater		Surface Water - DWTP	
Constituent	Units	Range	Average	Range	Average
Chromium, Total	µg/L	< 0.20 – 6.3	3.4	< 0.20 – 3.2	0.85
Hexavalent Chromium	µg/L	0.049 – 6.6	3.5	< 0.030 – 0.061	0.043
Molybdenum	µg/L	< 1.0 – 1.2	< 1.0	< 1.0 – 1.6	1.0
Strontium	µg/L	160 – 790	489	48 – 260	167
Vanadium	µg/L	2.9 – 33	22	0.60 – 2.8	1.7
Chlorate	µg/L	< 20 – 310	31	94 – 440	223
1, 4-dioxane (aka Dioxane)	µg/L	< 0.070 – 0.21	< 0.07	ALL < 0.070	< 0.070

FOOTNOTES

(1) Once every five years, the U.S. Environmental Protection Agency (EPA) issues a list of *unregulated* contaminants to be monitored by public water systems. The UCMR provides the EPA and other interested parties with scientifically valid data on the occurrence of certain contaminants in drinking water. An MCL for these contaminants listed above does not exist. The UCMR program examines what is in the drinking water, but additional health information is needed to know whether these contaminants pose a health risk. Further information on UCMR3 can be found at https://www.epa.gov/dwucmr/fact-sheets-about-third-unregulated-contaminant-monitoring-rule-ucmr-3, or contact the Safe Drinking Water Hotline (1-800-426-4791).

(2) Of the 30 unregulated contaminants tested for in UCMR3, only 7 were detected in the drinking water.

Key:

< – Less than
mg/L – Milligrams per Liter
µg/L – Micrograms per Liter
µS/cm – Micro-siemens per centimeter
ng/L - Nanograms per Liter
pCi/L – Picocuries per Liter
NTU – Nephelometric Turbidity Unit
N/A – Not Applicable
NR – Testing not required

CITY OF STOCKTON

2016 Drinking Water Quality Report

Definitions

(AL) – Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

(MCL) – Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. **Primary** MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. **Secondary** MCLs are set to protect the odor, taste and appearance of drinking water.

(MCLG) – Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

(MRDL) – Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

(MRDLG) – Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

(PDWS) – Primary Drinking Water Standard: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

(PHG) – Public Health Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

(TT) – Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

For additional questions regarding this Report, please contact: Eric Houston (209) 937-7455 or eric.houston@stocktonca.gov

For additional paper copies, please call (209) 937-7031 • To view electronically, visit www.stocktonca.gov/**files/ccr.pdf**

Water is a Precious Resource. Use Wisely!

The City of Stockton is committed to conserving water, an important resource with limited supply. The Water Conservation Program works year-round to increase water conservation and raise awareness about programs and services available to customers within the City's water service. Residential customers may be eligible for free water use surveys. For more information, call 1-866-STOKWTR (1-866-786-5987) or visit www.stocktonca.gov/mud.

Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.